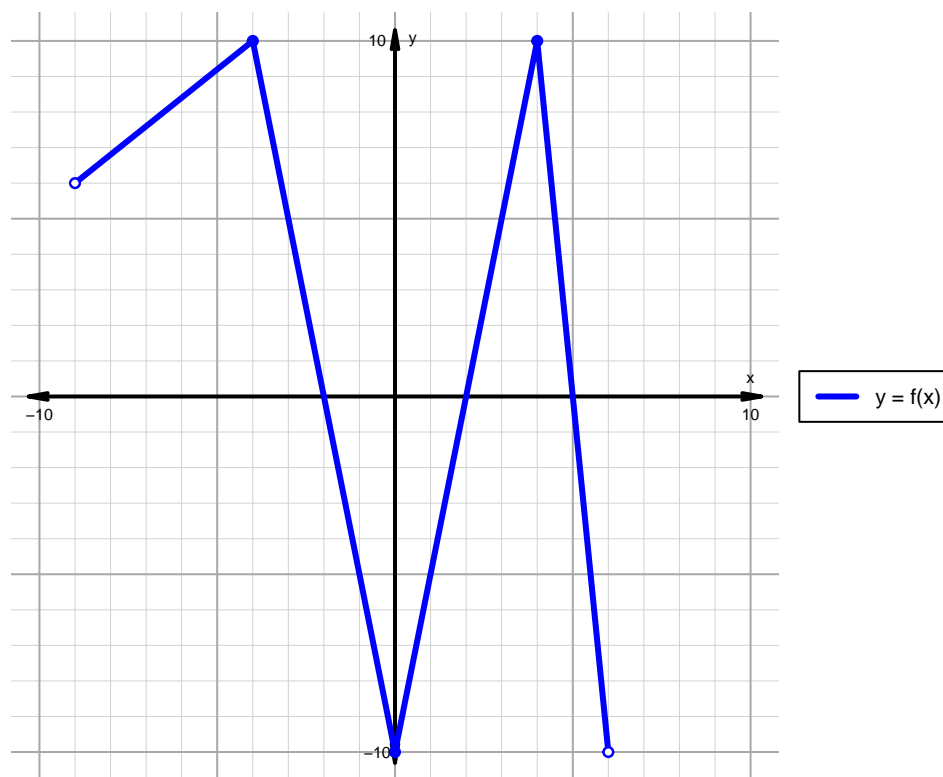


Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Intervals, Transformations, and Slope Solution (version 47)**

1. The function  $f$  is graphed below.

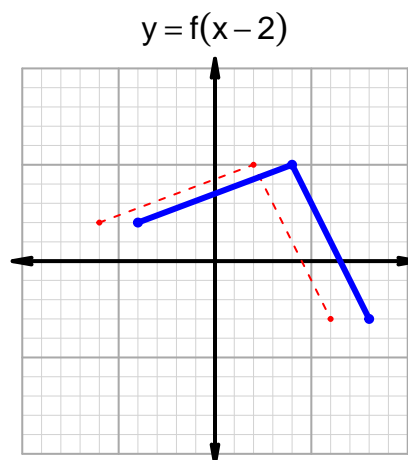
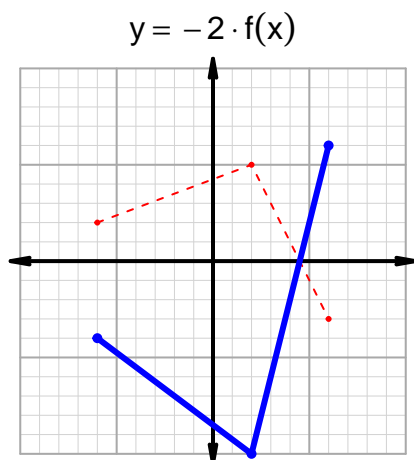
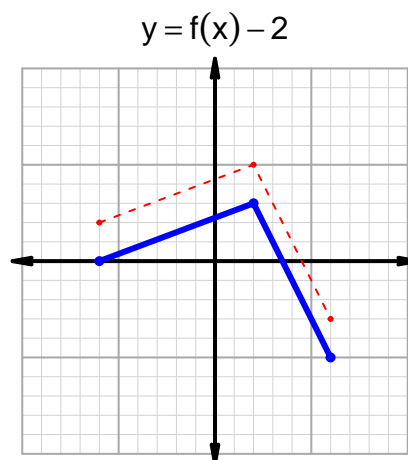
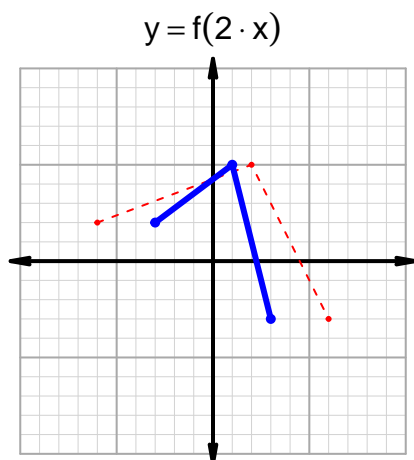


Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-9, -2) \cup (2, 5)$
Negative	$(-2, 2) \cup (5, 6)$
Increasing	$(-9, -4) \cup (0, 4)$
Decreasing	$(-4, 0) \cup (4, 6)$
Domain	$(-9, 6)$
Range	$(-10, 10)$

## Intervals, Transformations, and Slope Solution (version 47)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 13$  and  $x_2 = 27$ . Express your answer as a reduced fraction.

$x$	$g(x)$
13	97
27	34
34	13
97	27

$$\frac{f(27) - f(13)}{27 - 13} = \frac{34 - 97}{27 - 13} = \frac{-63}{14}$$

The greatest common factor of -63 and 14 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-9}{2}$$